# Contemporary Physicists and God's Existence

# الفيزيائيون المعاصرون والوجود الإلهي

[ English - إنجليزي ]

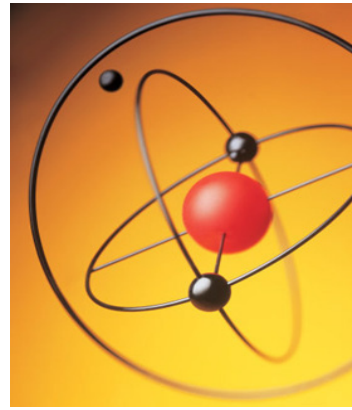
Jaafar Sheikh Idris

جعفر شيخ إدريس

www.sirat-e-mustaqeem.com

# Contemporary Physicists and God's Existence

## The Eternalness of Matter



Whether God exists or not is not as such, part of the subject matter of any empirical science, natural or social. But the facts or what are sometimes assumed to be the facts of the natural sciences, especially physics and biology, are often interpreted to support one view or the other. This is not therefore a paper about physics, but about the relationship between physics and the question of the existence of God. More specifically, it is mainly an Islamic rational critique of the ways modern atheists attempts to meet the challenge posed by the Big Bang theory. It does not deal with positive proofs for the existence of the Creator; it only proves the invalidity of the arguments used to buttress atheism.

One of the main arguments invoked in support of some form or other of atheism has always been the claim that the world, or some part of it, is eternal and, as such, needs no creator. Thus, some Greek thinkers believed that the heavenly bodies, especially the sun, were eternal. The main argument of one of them, Galen, was, according to Al-Ghazali, that it has had the same size for continued for eons and

eons,a fact which shows that it is not perishable, for if it were, it would have shown signs of decay, which it doesn't. Al-Ghazali says that this is not a good argument because:

First...we do not grant him that a thing cannot perish except by decaying; decaying is only one way of perishing; but it is not improbable for something to perish suddenly while it is in its complete form. Second, even if we grant him that there is no perishing without decay, whence does he know that it does not suffer any decay? His reference to observation posts is not acceptable, because their quantities [the quantities known by them] are known only approximately. So if the sun, which is said to be a hundred and seventy times or more the size of the earth[1], were to diminish by amounts the size of mountains, that would not be apparent to the senses. So it might be decaying, and might have decreased by amounts the size of mountains or more, but the senses cannot perceive this ..." (Al-Ghazali, 126)

Al-Ghazali's guess that the size of the sun might be diminishing was, as we can now see, a rare prescience of what science would prove. Scientists now tell us that the sun does indeed decay, but much more than he thought, and that it will ultimately perish.

The amount of energy released by the sun is such that the mass of the sun is decreasing at the rate of 4.3 billion kilograms per second. Yet this is such a small fraction of the sun's mass that the change is hardly noticeable…

Our sun is believed to be about 4.5 billion years old, and will probably continue its present activity for another 4.5 billion years. (Wheeler, 596)

1 We now know that it is definitely more. The mass of the sun is 333, 000 times that of the earth, and its radius is 109 times the earth's radius.

If the heavenly bodies are not eternal, what is it then that is eternal, the substances from which those bodies are made? But physicists have discovered that these are made of molecules. Is it then the molecules that are eternal? No, because these are made up of atoms. What about the atoms? It was once believed that they were indivisible, and were, as such, the immutable matter from which all kinds of transient forms of material things are made. This seemed, at last, to be the solid foundation on which to erect modern atheism.

Science continued to advance however, and contented in its advancement to embarrass the atheists. It was soon discovered that atoms were not the immutable solid ultimate eternal constituents of matter that they were believed to be for a time. Like everything else, they are also divisible; they are constituted of subatomic particles, which are in turn divisible in yet smaller constituents. Is there an end to this divisibility? No one knows; but even if there was, that would not be of any help to the atheists, for science has not only shown atoms and their constituents to be divisible, it has obliterated the division between matter and energy. Thus, every piece of matter, however small, is not only theoretically but also practically changeable into energy, and vice versa. The end result is that there is no longer any actual existent to which one can point and say with any assurance: this has always been like as it is now, and will continue forever to be.

That discovery should by itself have sufficed to dash any hope of anchoring atheism on the eternity of matter. If it did not, the Big Bang theory certainly did. It was this theory which dealt the final death blow to the eternity of any part of the universe. Why?

Cosmologists believe that the big bang represents not just the appearance of matter and energy in a preexisting void, but the creation of space and time too. The universe was not created in space and time; space and time are part of the created universe. (Davies, 123)

The biggest misunderstanding about the big bang is that it began as a lump of matter somewhere in the void of space. It was not just matter that was created during the big bang. It was space and time that were created. So in the sense that time has a beginning, space also has a beginning." (Boslouh, 46.)

In the beginning there was nothing, neither time nor space, neither stars nor planets, neither rocks nor plants, neither animals nor human beings. Everything came out of the void. (Fritzch, 3)

The question of the existence or non-existence of God is not, as we said, the concern of any empirical science. But scientists are human beings. They cannot help thinking about the non-scientific yet vital implications of their sciences. They cannot even help having feelings towards those implications.

Jasrow says about Einstein:

He was disturbed by the idea of a universe that blows up, because it implied that the world had a beginning. In a letter to De Sitter, Einstein wrote, "This circumstance of an expanding universe irritates me." ... This is curiously emotional language for a discussion of some mathematical formulas. I suppose that the idea of a beginning in time annoyed Einstein because of its theological implications. (Jasrow, 29.)

Gastro quotes similar reactions by other scientists, like Eddington who says that "the notion of a beginning is re-

pugnant" to him (122), and attributes this emotional reaction to the fact that they do not "bear the thought of a natural phenomenon which cannot be explained"[2] and comments on such reactions of scientists by saying that they provide:

... an interesting demonstration of the response of the scientific mind - supposedly a very objective mind - when evidence uncovered by science itself leads to conflict with the articles of faith in our profession. It turns out that the scientist behaves the way the rest of us do when our beliefs are in conflict with the evidence. We become irritated, we pretend the conflict does not exist, or we paper it over with meaningless phrases. (Jasrow, 15-16.)

## A Series of Causes

If matter, time and space all had a beginning, the question that naturally comes to mind is: How did they come to be? The Quran tells us that if a person does not believe in God, then he cannot explain the coming into being of anything except by one of three untenable explanations:

a. either he says that it was created by nothing, i.e. that it just appeared out of nothing?

b. Or that it created itself,

c. Or that it was created by something that is itself created.

Addressing the atheists the Quran says:

**"Were they created by nothing? Or were they themselves the creators (of themselves)? Or did they create**

2 Gastro would have been more accurate if he said, "a phenomenon that cannot be naturally explained.", since Divine creation is an explanation, and the only one in such cases.

**heaven and earth? Nay, but they are not sure." (Quran 52:35-36)**

The Quran is not saying that the Arabs whom it addressed actually believed that things were created by nothing, or that they created themselves. They certainly did not claim that they were the creators of the heavens and earth; no sane person would. The Quran then, is only making clear to the atheists the absurdity of their position.

After a careful study of some of the arguments of many Western atheistic philosophers and scientists, I have found that they do indeed fall into these three untenable categories. Why untenable?

## Was it created out of nothing?

Suppose that you told someone that there was nothing, nothing at all in a certain region, and then lo! a duck appeared alive and kicking. Why wouldn't he believe you however much you assure him that that was indeed the case? Not only because he knows that ducks don't come into being in that way, as some might suppose, but because believing this violates an essential principle of his rationality. Thus his attitude would be the same even if the thing that he was told to have come from nothing was something that he never heard of before. It is because we believe that nothing comes out of nothing, that we keep looking for causes by which we explain the occurrence of events in the natural, social or psychological world. It is because of this rational principle that science was possible. Without it, not only our science, but our very rationality will be in jeopardy. Moreover, the idea of causation is essential even to the very identity of things, as it was observed by the Muslim philosopher Ibn Rushd (Averroes):

It is self-evident that things have identities, and they have qualities in virtue of which every existent has its actions, and in virtue of which things have different identities, names and definitions. If it were not the case that every individual thing had an action peculiar to, it would not have had a na-ture that is peculiar to it; and if it did not have a special na-ture, it would not have had a special name or definition. (Tahafut Attahafut, 782-3)

## Did it create itself?

The absurdity of the idea of something creating itself is even clearer. For something to create, it must be already existing; but for it to be created, it must be nonexistent. The idea of something creating itself is thus self-contradictory.

## Was it created by something that is itself created?

Can the cause of a temporal thing be itself temporal? Yes, if we are talking about immediate, incomplete causes like eating and nourishment, water and germination, fire and burning, etc. But these causes are incomplete causes. First, because none of them is by itself sufficient to produce the effect we attribute to it; every such temporal cause depends for its efficacy on a host of other positive and negative conditions. Second, because being temporal, they need to be caused, and cannot therefore be the ultimate causes of the coming into being of anything. Suppose the following to be a series of temporal effects and causes: C1, C2, C3, C4… Cn, such that C1 is caused by C2, C2 by C3, and so on. Such temporal causes are real causes, and useful ones, especially for practical purposes and for incomplete explanations; but if we are looking for the ultimate cause of the coming into being of, say, C1, then C2 is certainly not that cause, since it is itself caused by C3. The same can be said about C3, and so

on. So even if we have an infinite series of such temporal causes, still that will not give us an ultimate explanation of the coming into being of C1. Let us put this in other words: when does C1 come into being? Only after C2 has come into being. When does C2 come into being? Only after C3 has come into being, and so on until Cn. Therefore C1 will not come into being until Cn has come into being. The same problem will persist even if we go further than Cn, even if we go to infinity. This means that if C1 depended for its coming into being on such temporal causes, it would never have come to exist. There would be no series of actual causes, but only a series of non-existents, as Ibn Taymiyyah[3] explained. The fact, however, is that there are existents around us; therefore, their ultimate cause must be something other than temporal causes; it must be an eternal, and therefore, uncaused cause.

When someone, whether scientist or nonscientist, insists on his erroneous beliefs in the face of all the evidence, there can be no way for him to support those beliefs except by resorting to dubious arguments, because no falsehood can be supported by a valid argument. This has been the case with all atheistic scientists and philosophers who believe in the Big Bang theory.

Some claimed unabashedly that the original matter of the universe came out of nothing. Thus Fred Hoyle, who advocated the steady state theory, which was for sometime considered to be a credible rival to the big bang theory, but which,

3 Taqi al-Din Ahmad Ibn Taymiyyah (1263 - 1328), an Islamic scholar born in Harran, now modern day Syria.

like its rival, necessitates the coming into being of new matter-- used to say[4]:

The most obvious question to ask about continuous creation is this: Where does the created material come from? It does not come from anywhere. Material simply appears - it is created. At one time the various atoms composing the material do not exist, and at a later time they do. This may seem a very strange idea and I agree that it is, but in science it does not matter how strange an idea may seem so long as it works – that is to say, since the idea can be expressed in a precise form and so long as its consequences are in agreement with observation. (Hoyle, 112)

When Hoyle said this, there was an uproar against him. He was accused of violating a main principle of science, namely that nothing comes out of nothing, and was thus 'opening the flood gates of religion' as one philosopher of science put it. Thus Mario Bunge said about it:

[T]his theory involves the hypothesis of the continuous creation of matter ex nihilo. And this is not precisely what is usually meant by respecting scientific determinism even in its widest sense, for the concept of emergence out of nothing is characteristically theological or magical even if clothed in mathematical form. (Bunge)

That the hypothesis of creation ex nihilo is not a scientific one, is true, but the claim that it is characteristically theological is wide off the mark. Theistic religions do not say that things come out of absolute nothing because that contradicts the basic religious claim that they are created by God. All that many religious people say is that God creates

4 Later on he changed his mind, not only about this, but about the whole theory.

things out of nothing, and there is the whole difference in the world between the two notions.

If creation out of nothing was earlier considered by atheists to be an unscientific and theological principle, it is now claimed by some to have a scientific status and is used to discredit religion.

For the first time a unified description of all creation could be within our grasp. No scientific problem is more fundamental or more daunting than the puzzle of how the universe came into being. Could this have happened without any supernatural input? Quantum mechanics seems to provide a loophole in the age-old assumption that 'you can't get something for nothing'. Physicists are now talking about 'the self creating universe': a cosmos that erupts into existence spontaneously, much as a sub nuclear particle pops out of nowhere in certain high energy processes. The question of whether the details of this theory are right or wrong is not important. What matters is that it is now possible to conceive of a scientific explanation of all creation. (Jastrow, viii)

What kind of explanation is this? Do you really even start to explain anything by saying that it pops out of nowhere? Do scientists really believe that the sub nuclear particle referred to pops out of nowhere, in the sense that it really comes out of nothing, and has no relation whatsoever to anything that precedes it? Commenting on what Davies claimed, one scientist had this to say: "This, in any case, is an event that occurs in space and time, within a domain bathed in matter and radiation. 'Nothing' is nowhere to be seen in this situation."[5]

5 This is what my friend, Professor Mahjoob Obeid, the famous Sudanese physicist wrote to me in a personal communication.

This same fallacious idea is repeated in a later book by another atheistic scientist, Taylor:

As such, there is a non-zero probability of, say, a particle such as an electron appearing out of the vacuum. In fact a vacuum is full of possibilities, one of which is the appearance of the Universe itself. It had been created from nothing, as it were. (Taylor, 22)

What kind of vacuum is Taylor talking about? If he is using the word in its technical scientific sense, then he can indeed speak of its being full of possibilities, or of an electron appearing out of it, because this vacuum is in fact a non-empty region. This surely, however, is not the nothingness that is referred to by the big bang theory. There is therefore not even an analogy between the appearance of a particle in a vacuum and the appearance of a Universe out of absolute nothing.

## Room for God

The idea that something is not created by anything, that it comes out of nothing, is very different from the idea that it creates itself. It is strange therefore to find some scientists speaking about them as if they are one and the same thing. It is not only Davies who confused these two notions as we can see in the quotation just cited, but others also. Taylor tells us that electrons can create themselves out of nothing in the manner Baron Munchausen saved himself from sinking into a bog by pulling himself up by his bootstraps.

It is as if these particles special particles are able to pull themselves up by their own bootstraps (which in their case are the forces between them) to create themselves from noth-

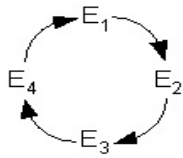
ing as Baron Munchausen saves himself without visible means of support...This bootstrapping has been proposed as a scientifically respectable scenario for creating a highly specialized Universe from nothing. (Taylor, 46)

Is it science or science fiction that we are being told here? Taylor knows and says that Munchausen's is only a story; what he claimed to have done is in fact something that is physically impossible to do. In spite of this, Taylor wants to explain by his idea something that is not only real, but is of the utmost importance, and thus ends up saying something that is more absurd than Munchausen's fictitious story of saving himself by pulling up his bootstrap. At least Munchausen was talking about things that were already in existence. But Taylor's special particles act even before they are created! They "pull themselves by their own bootstraps... to create themselves from nothing."!

## False Gods

The third alternative to attributing the creation of things to the true God, is to attribute them to false gods. Thus many atheists try to attribute the creation of temporal things to other things which are themselves temporal (as we said before). Davies says:

The idea of a physical system containing an explanation of itself might seem paradoxical to the layman but it is an idea that has some precedence in physics. While one may concede, (ignoring quantum effects) that every event is contingent, and depends for its explanation on some other event, it need not follow that this series either continues endlessly, or ends in God. It may be closed into a loop. For example, four events, or objects, or systems, E1, E2, E3, E4, may have the following dependence on each other: (Davies, 47)




But this is a clear example of a very vicious circle. Take any one of these supposed events or objects or systems. Let it be E1, and ask how it came about . The answer is: it was caused by E4, which preceded it; but what is the cause of E4? It is E3; and the cause of E3 is E2, and of E2 is E1. So the cause of E4 is E1 because it is the cause of its causes. Therefore E4 is the cause of E1 and E1 is the cause of E4 which means that each one of them precedes and is preceded by the other. Does that make any sense? If these events, etc. are actual existents, then their coming into being could not have been caused by them the way Davies supposes it to be. Their ultimate cause must lie outside this vicious circle.

And the philosopher Passmore advises us to:

Compare the following:

(1) every event has a cause;

(2) to know that an event has happened one must know how it came about.

The first simply tells us that if we are interested in the cause of an event, there will always be such a cause for us to discover. But it leaves us free to start and stop at any point we choose in the search for causes; we can, if we want to, go on to look for the cause of the cause and so on ad infinitum , but we need not do so; if we have found a cause, we have found a cause, whatever its cause may be. The second assertion, however, would never allow us to assert that we know that an event has happened ... For if we cannot know that an event has taken place unless we know the event that is its

cause, then equally we cannot know that the cause-event has taken place unless we know its cause, and so on ad infinitum. In short, if the theory is to fulfill its promise, the series must stop somewhere, and yet the theory is such that the series cannot stop anywhere – unless, that is, a claim of privilege is sustained for a certain kind of event, e.g. the creation of the Universe. (Pasture, 29)

If you think about it, there is no real difference between these two series as Ibn Taymiyyah clearly explained a long time ago (Ibn Taymiyyah, 436-83). One can put the first series like this: for an event to happen, its cause must happen. Now if the cause is itself caused, then the event will not happen unless its cause event happens, and so on, ad infinitum. We will not therefore have a series of events that actually happened, but a series of no events. And because we know that there are events, we conclude that their real ultimate cause could not have been any temporal thing or series of temporal things whether finite or infinite. The ultimate cause must be of a nature that is different from that of temporal things; it must be eternal. Why do I say 'ultimate'? Because, as I said earlier, events can be viewed as real causes of other events, so long as we acknowledge them to be the incomplete and dependent causes they are, and as such not the causes that explain the coming into being of something in any absolute sense, which is to say that they cannot take the place of God.

What is the relevance of this talk about chains after all? There might have been some excuse for it before the advent of the Big Bang, but it should have been clear to Davies in particular that there is no place for it at all in the world-view

of a person who believes that the universe had an absolute beginning.

The fact that every thing around us is temporal and that it could not have been created except by an eternal Creator has been known to human beings since the dawn of their creation, and it is still the belief of the overwhelming majority of people all over the world.[6] It would, therefore, be a mistake to get from this paper the impression that it hinges the existence of God upon the truth of the Big Bang theory. That certainly is not my belief; neither was it the purpose of this paper. The main thrust of the paper has rather been that if an atheist believes in the big bang theory, then he cannot avoid admitting that the Universe was created by God. This, in fact, is what some scientists frankly admitted, and what others hesitantly intimated to.

There is no ground for supposing that matter and energy existed before and was suddenly galvanized into action. For what could distinguish that moment from all other moments in eternity? ... It is simpler to postulate creation ex nihilo, Divine will constituting nature from nothingness. (Jastro,122)

As to the first cause of the universe in the context of expansion, that is left to the reader to insert, but our picture is incomplete without Him. (Jasrow,122)

This means that the initial state of the universe must have been very carefully chosen indeed if the hot big bang model

---

6 "…the first published avowal of speculative atheism appeared in 1770 on the Continent, and in 1782 in Britain." (Russell, Atheism. 3).
"The most recent Gallop data indicate that 96 per cent of Americans say they believe in God... " , (Carter, Culture, 278). The percentage must surely be greater in the non Western world.

was correct right back to the beginning of time. It would be very difficult to explain why the universe should have begun in just this way except as the act of a God who intended to create beings like us. (Hawking,127)

## References


Al Ghazali, Abu Hamid, Tahafut al Falasifa, edited by Sulayman Dunya, Dar al Ma'arif, Cairo, 1374 (1955)

Berman, David, A History of Atheism in Britain, London and New York, Routledge, 1990.

Boslough, John, Stephen Hawking's Universe: an Introduction to the most remarkable Scientist of our Time, Avon Books, New York, 1985.

Bunge, Mario, Causality: The Place of the Causal Principle in Modern Science, The world publication Co. New York, 1963

Carter, Stephen L. The Culture of Disbelief: How American Law and Politics Trivialize Religious Devotion. Basic Books, Harper Collins, 1993.

Concise Science Dictionary, Oxford University Press, Oxford, 1984

Davies, Paul, (1) The Cosmic Blueprint: New Discoveries in Nature's Creative Ability to Order the Universe, Simon & Schuster Inc, London, 1989. (2) God & The New Physics, The Touchstone Book, New York, 1983.

Fritzsch, Harald, The Creation of Matter: The Universe From Beginning to End, Basic Books Inc Publishers, New York, 1984.

Ibn Rushd, al Qadi Abu al Walid Muhammad Ibn Rush, Tahafut at-Tahafut, edited by Sulayman Dunya, Dar al Ma'arif , Cairo, 1388 (1968.)

Ibn Taymiya, Abu al Abbas Taqiyuddin Ahmad Ibn Abd al Halim, Minhaj al Sunna al Nabawiya , edited by Dr. Rashad Salim, Imam Muhammad Ibn Saud Islamic University, Riyad, AH 1406 (1986)

Jastrow, Robert, God And The Astronomers, Warner Books, New York, 1978.

Hawking, Stephen, A Brief History of Time,

Hoyle, Fred, The Nature of the Universe, Mentor Books, New York, 1955.

Kirkpatrick, Larry D. and Wheeler, Gerald F. Physics, A World View, New York, Saunders College Publishing, 1992.

Newton, Sir Isaac, Optics, Dover Publications Inc. New York, 1952.

Pasture, J. A, Philosophical Reasoning, New York, 1961.

Taylor, John, When the Clock Struck Zero: Science's Ultimate Limits, Picador, London, 1993